Technical data sheet

2008

MV network management

Easergy W200 - W500

Network remote monitoring

Presentation

The W200 is a product dedicated to remote monitoring of MV/LV substations

It provides the following functions:

- recording power and temperature measurements
- recording data from 6 digital inputs
- sending orders via 3 outputs
- detecting breaks in voltage
- communicating via GSM.

Data is accessed:

- via Intranet/Internet through the Easergy W500 server which can generate email alarm messages
- by SMS messages on a cell-phone.

The W200 exists several versions

Basic version

6 digital inputs (DI), 3 relay outputs (DO) and GSM link.

Version with 1 measurement channel with CT

Basic version with 3 analog inputs (I) for current measurement (3 phases), plus an analog input (θ) for transformer temperature measurement and one voltage measurement analog input (U).
This version includes 3 opening current sensors (CT) adapted to measuring currents with a rating of 1300/1.

Version with 1 measurement channel without CT

This version is equivalent to the previous one. It can be adapted to all types of sensors CT supplying a secondary current (0-5A).

The W500 is an INTRANET access server

- Integrated in the company INTRANET network:
  - □ password protection
  - □ possibility of INTERNET access
- RTC communication with substations
- HTTP server compatible with standard browsers.

Cat. no		Sales reference	Base 6 DI, 3 DO, GSM	Metering 1 LV channel 3 I, U, θ	Sensors	Application
W200	**62402**	W200SG2ZZZ	■			Digital data
	62407	W200SG2L1A	■	■	3 CT	1 MV/LV transformer
	62404	W200SG2N1Z	■	■	Not supplied	
W500	**62400**	W500	W500 WEB server (CD-Rom)			

Merlin Gerin
Square D
Telemecanique

Schneider Electric

Description of functions

Operating and maintenance aid

Voltage measurement
Voltage measurement is taken on one phase (W200 power supply).
This measurement enables monitoring of the quality of service and generating of an alarm if the voltage is too low (adjustable low threshold).

Apparent power measurement
The RMS current and RMS power are measured on the LV busbars.
The aim is to give information on the change in the transformer's apparent power.

Transformer temperature measurement
The temperature is taken using a PT100 sensor in the transformer.

Inputs - outputs
The 6 digital inputs enable specific requirements to be met relative to MV/LV substation operation, such as:
- detection of LV fuse blowing
- adding of MV fault indicators
- opening of the MV/LV substation door
- substation in local/remote mode
- position of MV switches.

Similarly, the 3 output relays can be used to remotely control a device in the substation. The operator has the possibility of programming an alarm in the case of a change in status.

Recording suited to substation monitoring

Recording suited to substation monitoring
- Integrated power every 10 minutes
- Hourly average over the past week and for the week with the year's peak value
- Maximum per day and per month over 1 year
- Maximum per year.

Logging of 200 date-stamped events
- Voltage breaks
- MV/LV transformer temperature thresholds
- Power thresholds
- Miscellaneous substation data (equipment, actions...)
- Recording changes in status of inputs/outputs.

Communication
- Integrated GSM interface or RS232 link
- Automatic event-related call (alarms)
- Cyclic call.

Configuration
- Local with laptop PC
- Remote via the INTRANET network.

Description of functions

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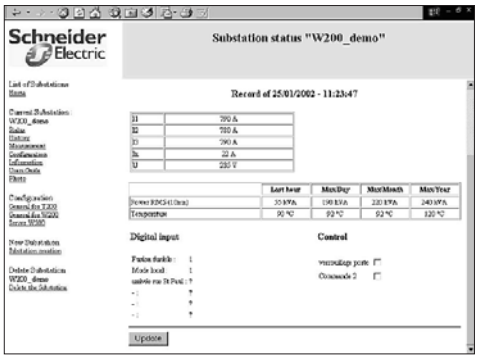

Internet/Intranet version

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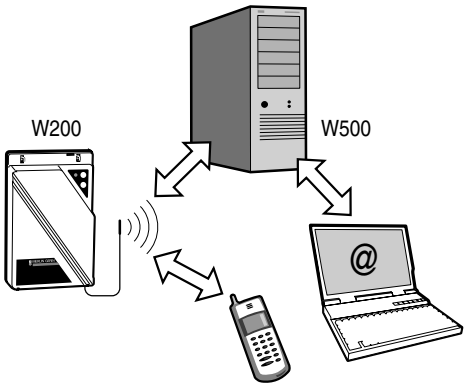

Easergy W500 server software

Characteristics:

- PC software running under Windows 98, NT or 2000
- requires a Modem on the COM1 serial port
- manages the database of data from W200 units (up to 8,000 substations),
- custom text for each substation (600 characters)
- integrated in the corporate Intranet network or in Internet
- http server compatible with standard browsers.

Functionalities:

- file download
- reports (view and print) of event files and measurements or import in another database
- remote parameter configuration.

For more details refer to the W500 user's manual.

Alarms

The alarms are triggered by the crossing of a threshold (temperature, power or voltage) or even by modifying the status of one of the digital inputs.
A GSM call to the Easergy W500 server is initialized which will give e-mail alarms to the operators concerned and/or send an SMS according to the selected settings.

Event log

The W200 record the last 150 events in an event log.
Each new connection enables the Easergy W500 server log to be updated.

"Local configuration" mode

This enables the W200 to be configured locally using a PC running under Windows (98, NT, 2000 or XP) and a specific lead.

Menu-based W200 configuration and operation:

- communication parameter definition (telephone n°, SMS…)
- setting alarm thresholds for powers, voltages and temperatures
- viewing RMS and active currents, voltages and powers, temperatures and digital data
- recovering W200 recorded values in file form
- development tools
- setting up automatic daily calls.

Simplified installation

Easergy W500 is distributed on CD-Rom

The computer on which Easergy W500 is installed requires:

- 1 RTC modem type V90
- 1 Ethernet link
- 1 browser (Internet Explorer®, Netscape®, ...).

Characteristics

Easergy W200

Measurement inputs		Quantity	
	Current measurement with CT	3	Easergy sensors; busbars 70 x 6 mm Accuracy 3%; measurement between 0 and 1500 A
	Current measurement without CT	3	Current accuracy 1%
	Voltage measurement	1	Supply voltage measurement (just one phase) Accuracy of 1% between 180 and 270 V
	Temperature measurement	1	Sensor: PT100 sensor (2 wires) Accuracy 5%; measurement between -25 and +150°C
Calculated measurements			
	Active power		Accuracy 3%; integrated over 10 min
	RMS power		True RMS up to harmonic 17 Accuracy 3%; integrated over 10 min
	Power factor		Accuracy 3% from 0.8 capacitive to 0.5 inductive
Digital inputs-outputs		**Quantity**	
	Powered inputs	6	5 VDC
	Dry contact outputs	3	Relay outputs (2 A at 230 VAC)
Characteristics			
Dielectric		IEC 61010	Insulation (50 Hz/1 min): 2 kV
		EN 60-950	Impulse voltage (1.2/50 µs): 5 kV
Electromagnetic	Electrostatic discharge	IEC 1000-4-2	Level 3
	Radiated field	IEC 1000-4-3	Level 3
	Fast transients	IEC 1000-4-4	Level 4
	Impulse waves	IEC 1000-4-5	Level 3
	Radio frequency	IEC 1000-4-6	Level 3
	Magnetic field 50 Hz	IEC 1000-4-8	Level 4
	Voltage breaks	IEC 1000-4-11	–
	Damped oscillating waves	IEC 1000-4-12	2.5 kV common mode, 1 kV differential mode
	Impulse wave	IEC 1000-4-5	Between lines 1 kV, between lines and earth 2 kV
	Emissions	EN 55011	Class A
Climatic	Temperature		-25°C to +55°C
	Relative humidity	IEC 68-2-3	Less than 95% at 40°C, without condensation
	Salt mist	IEC 68-2-11	168 h
	Storage temperature	IEC 68-2-14	-40°C to +70°C
Mechanical	Vibrations	IEC 68-2-6	10 to 500 Hz; 1 g or 0.075 mn peak to peak
	Protection	IEC 60529	IP21
Power supply			
	Supply voltage		230 VA ±15% 50 Hz/60 Hz
	Battery		2 h battery life
Options			
	Integrated GSM modem		Dual-band 900/1800 MHz Antenna supplied with 4 m cable
	Measurement extension		3 current measurement inputs and a PT100

Easergy W500

Server			
	Server installed on PC		Windows 98, NT, 2000, XP
	Communication to Intranet		Ethernet TCP/IP port
	Communication to W200		Standard RTC modem (COM1) not supplied
	Capacity		8,000 substations

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